Quick

Operating Instructions

CE

ivoclar vivadent®
technical

KONFORMITÄTSERKLÄRUNG
DECLARATION OF CONFORMITY
CERTIFICAT DE CONFORMITÉ
DICHIARAZIONE DI CONFORMITÀ
DECLARACIÓN DE CONFORMIDAD
DECLARAÇÃO DE CONFORMIDADE

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CE

Produkt / Product / Produit / Prodotto / Producto / Produto

Quick

DE Hiermit erklären wir in alleiniger Verantwortung, dass das oben aufgeführte Produkt den erwähnten Normen entspricht.
Gemäss den Bestimmungen der EU-Richtlinie(n):

GB We herewith declare that the product listed above complies with the mentioned standards.
Following the provisions of Directive(s):

FR Par la présente, nous déclarons que le produit ci-dessus indiqué est conforme aux normes énoncées.
Conformément aux dispositions de la (des) Directive(s) CE:

IT Con la presente dichiariamo sotto la nostra responsabilità, che il prodotto sopra menzionato corrisponde alle norme citate.
Secondo le disposizioni della/e Direttiva/e CEE:

ES Por la presente declaramos que el producto arriba indicado cumple con las normas citadas.
Siguiendo las indicaciones de la Directiva:

PT Declaramos que o produto citado cumpre as normas mencionadas.
De acordo com as especificações da(s) Diretriz(es):

73/23/EWG 89/336/EWG	EN 50081-1	1992
	EN 50082-1	1992
	EN 55011	1991
	EN 55014	1993
	EN 55022	1994
	EN 60555-2	1995
	EN 60555-3	1995
	EN 61000-3-2	1995
	EN 61000-3-3	1995
	EN 61010-1	2001
	EN 61010-1-A2	1995

Schaan, 12.02.2004

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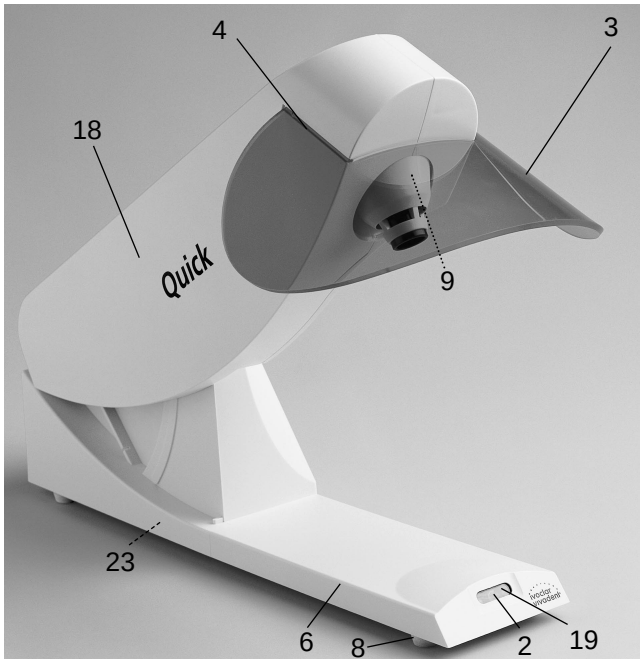
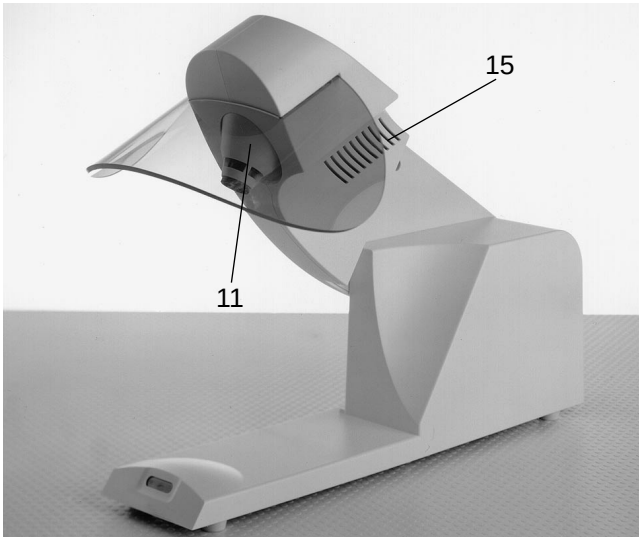
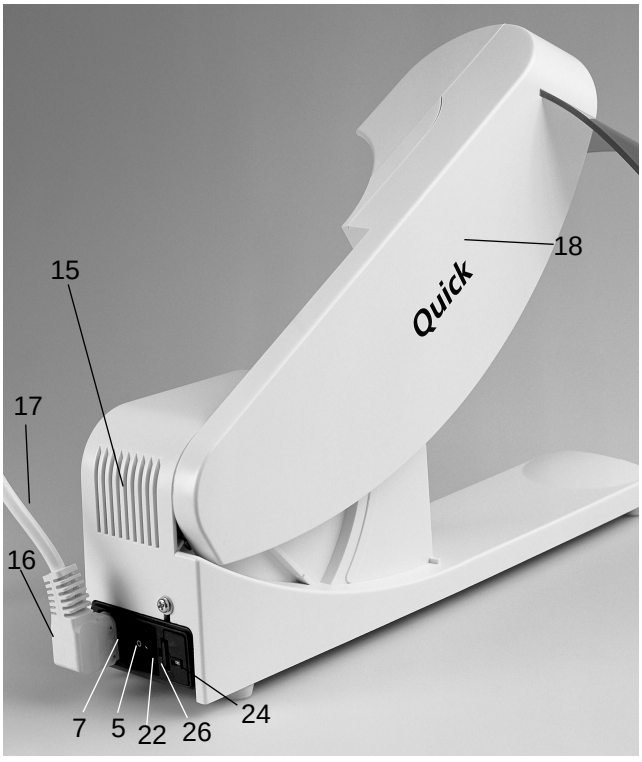
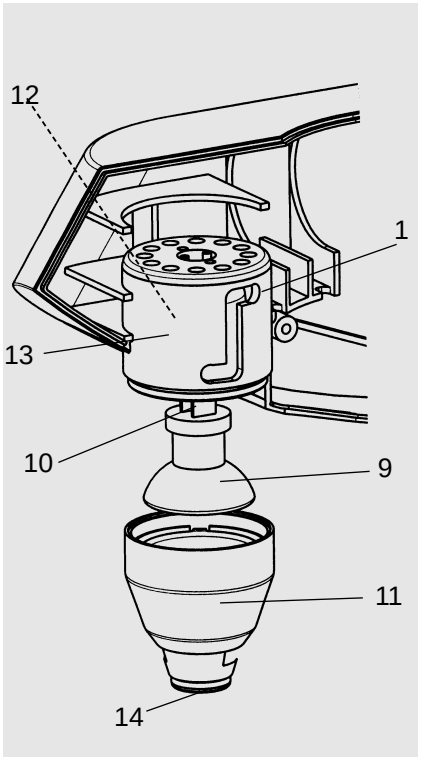
List of Parts

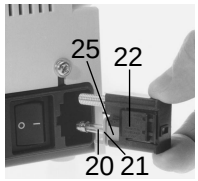




1 Bayonet catch
2 Stand-by indicator (LED)
3 Anti-glare shield
4 Anti-glare shield holder
5 On/off switch
6 Bottom of the unit
7 Power socket
8 Rubber feet
9 Lamp
10 Contact pins
11 Protective cap
12 Lamp socket
13 Protective cap holder (bayonet catch)
14 Lamp lens
15 Air vents
16 Power plug
17 Power cord
18 Swivel arm
19 Sensor (sender and receiver)
20 Fuse
21 Fuse catch
22 Fuse holder
23 Rating plate
24 Lateral fuse stop
25 Voltage selector
26 Window of the voltage selector







1. Introduction / Signs and Symbols

1.1 Preface

Dear Customer,
Thank you for having purchased the Quick. It is a highly technical quality product. The Quick has been developed especially for various light-curing resins from Ivoclar Vivadent. Furthermore, it can be used for other light-curing resin materials curing in the range of 400–500 nm.

The Quick is equipped with a sensor enabling non-contact light call-up.

The Quick has been designed according to the latest industry standards. Inappropriate use may damage equipment and be harmful to personnel. Please observe the relevant safety instructions in Chapter 2.

You must read these Operating Instructions

1.2 Introduction

The Quick is a high-tech product for dental technology and is equipped with state-of-the-art electronic components.

These Operating Instructions are divided into several chapters to help you find specific topics quickly and easily.

This initial light-curing unit is used for pre-curing material during layering. It has to be observed, however, that final curing has to be effected with a temper furnace. The Quick is used for precuring/ intermediate-curing only.

1.3 Signs and symbols

The signs and symbols in these Operating Instructions and on the unit facilitate the finding of important points and have the following meanings:

Operating Instructions:

Risks and dangers
This symbol marks safety instructions that must be followed to prevent injury or death. Furthermore, damage to the unit and/or laboratory may thus be avoided

Important information
This symbol marks additional information for correct and economic use of the Quick

Contraindication

Unit:

Switched on

Switched off

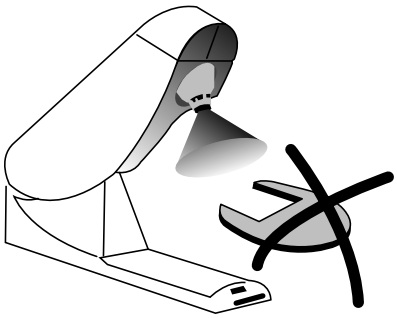
2. Safety First

This chapter is especially important for personnel who work with the Quick or who have to carry out maintenance or repair work. This chapter must be read and the corresponding instructions followed.

2.1 Indications

The Quick must only be used to cure light-curing materials and it should be used for this purpose only. Other uses than the one stipulated are contraindicated. The manufacturer does not assume any liability for damage resulting from misuse. The user is solely responsible for any risk resulting from failure to observe these Instructions.

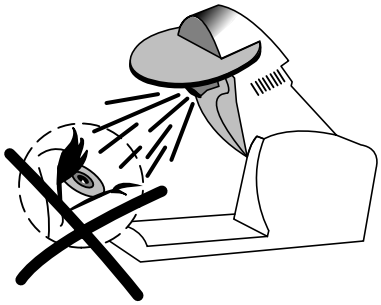
Further instructions to assure proper use of the Quick:
– The instructions, regulations, and notes in these Operating Instructions must be observed.
– The Quick must be operated under the stipulated environmental and operating conditions (see Chapter 9).
– The unit must be properly maintained.



2.1.2

Contraindication

The unit must not be operated without the anti-glare shield.

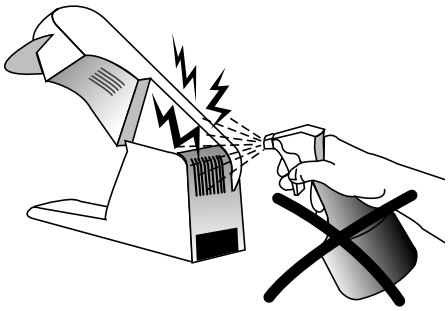


2.1.2

Contraindication

Do not look directly into the lamp or reflecting surfaces, as prolonged exposure may result in eye damage.

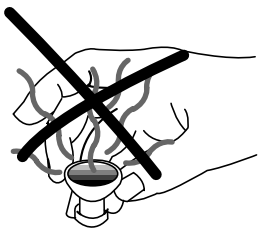
LED radiation
Class 1
visible and invisible light



2.1.3

Risks and dangers

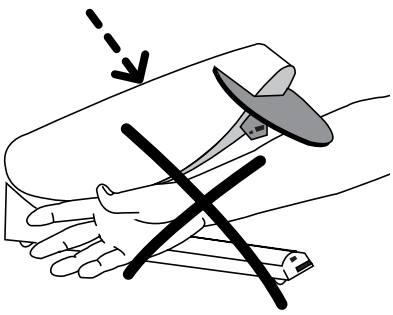
Foreign objects must not be placed on the air vents. Make sure that no liquids or other foreign objects enter the air vents, since this may result in an electrical shock.



2.1.4

Burn hazard

Do not touch the surface of the lamp while it is hot, since there is a burn hazard.



2.1.5

Risk of Crushing

Make sure the swivelling range is free when moving the swivel arm downwards, since there is a risk of crushing in this area.

Please also refer to section 3.2 in Chapter 3.

2.2 Health and safety instructions

This unit has been designed according to EN 61010-1 and has been shipped from the manufacturer in excellent condition as far as safety regulations are concerned. To maintain this condition and to assure risk-free operation, the user must observe the notes and warnings contained in these Operating Instructions.

- Do not place the unit in the immediate vicinity of heaters or other sources of heat.
- Place Quick on a fire-proof table (observe local regulations, e.g. distance to combustible objects, etc.).
- Always keep the air vents at the rear of the apparatus free from obstruction.
- Make sure that no foreign objects may enter the air vents.
- Do not touch any parts that become hot during the operation of the unit. There is a burn hazard.
- Clean unit only with a dry or slightly moist cloth. Do not use any solvents! Disconnect power before cleaning.
- Use original packaging for transportation purposes.
- The user must especially become familiar with the warnings and the operating conditions to prevent injury to personnel or damage to materials. The manufacturer is not responsible for damage resulting from misuse or failure to observe the Operating Instructions. Warranty claims cannot be accepted in such cases.
- Before switching on, make sure that the voltage indicated on the rating plate complies with your local power supply.
- The power plug may only be inserted into sockets with protected contacts.
- Before calibration, maintenance, repair, or exchange of parts, the power must be disconnected if the unit is to be opened.
- If calibration, maintenance, or repair has to be carried out with the power connected and the unit open, only qualified personnel, who are familiar with the risks and dangers, may perform these procedures.
- After maintenance, the required safety tests (high voltage resistance, protective conductor, etc.) have to be carried out.
- It should be ensured that only fuses of the indicated type and rated current (Capter 9.2) are used.
- If it is assumed that safe operation is no longer possible, the power must be disconnected to avoid accidental operation. Safe operation is no longer possible if
  - the unit is visibly damaged
  - the unit does not work
  - the unit has been stored under unfavourable conditions over an extended period of time.
- Use only original spare parts.
- The temperature range for faultless operation is +5 °C to +35 °C (41-95 °F)
- If the unit has been stored at very low temperatures or high atmospheric humidity it has to be dried or left to adjust to the room temperature for approx. 1 hour (do not connect to power yet).
- Note: Do not work with liquids near the unit. Should a liquid accidentally enter the unit, disconnect power and consult Customer Service. Do not operate the unit.
- The unit may be used at altitudes of up to 2000 m above sea level.
- The unit must be used indoors.

Warnings

- Any disruption of the protective conductor either inside or outside the furnace or any loosening of the protective conductor connection may lead to danger for the user in case of malfunction. Deliberate interruptions are not tolerated.
- Direct view into the light or reflecting surfaces without filter is uncomfortable for the eyes. Prolonged exposure may lead to eye damage. Therefore, we recommend looking at the object only through the anti-glare shield of the unit. Protective goggles absorbing light of wavelengths below 500 nm can also be used.
- This is especially applicable for persons who work with the unit or in its vicinity for extended periods of time, or for people who have undergone eye surgery.
- Persons who are generally light-sensitive, or who take medication against light-sensitivity or photo-sensitivity should not be exposed to the light of the unit.
- Hot surface. There is a burn hazard. Do not touch the lamp when it is hot.

3. Product Description

3.1 Components

The Quick comprises the following components:

- Base with electronic controls and sensor
- Swivel arm with lamp

The electronic controls and the sensor for light call-up are located in the base of the unit. The lamp is located in the swivelling upper part. The lamp is cooled with a ventilator.

3.2 Hazardous areas and safety equipment

Description of the hazardous areas:

Hazardous area	Type of risk
Lamp	Risk of burning Eye damage
Swivel arm	Risk of crushing
Electrical components	Risk of electrical shock
Sensor	Direct eye contact with the sensor from a short distance may damage the eyes

Description of the safety equipment:

Safety equipment:	Protective effect:
Protective conductor	Protection from electrical shock
Anti-glare shield	Prevents damage to the eyes
Overheating protection	Prevents overheating of the light source
Electrical fuses	Protect the unit from excess voltage

Also refer to Chapter 2.

3.3 Functional description

The lamp with the respective filters radiates light of a 400-500 nm wavelength, which initiates setting of the material. The light is called-up or stopped by means of an infrared sensor. The unit is equipped with an integrated timer that automatically switches off the light after a certain period of time.

4. Installation and Initial Start-Up

4.1 Unpacking and checking the contents

Remove components from their packaging and place the unit on a suitable table. There are no special transportation grips on the unit. Support the bottom of the unit with both hands to carry it.

Never carry the unit by holding the swivel arm.

Check the delivery for completeness (see "Delivery Form" in Chapter 9) and transportation damage. If certain parts are missing or damaged, contact your local Ivoclar Vivadent Customer Service. We recommend keeping the original packaging for future transportation purposes.

4.2 Selecting the location

Place the unit on a flat surface using the rubber feet (8). Make sure it is not placed in the immediate vicinity of heaters or other sources of heat. Furthermore, protect the unit from direct sunlight. Make sure the air may properly circulate between the wall and the unit.

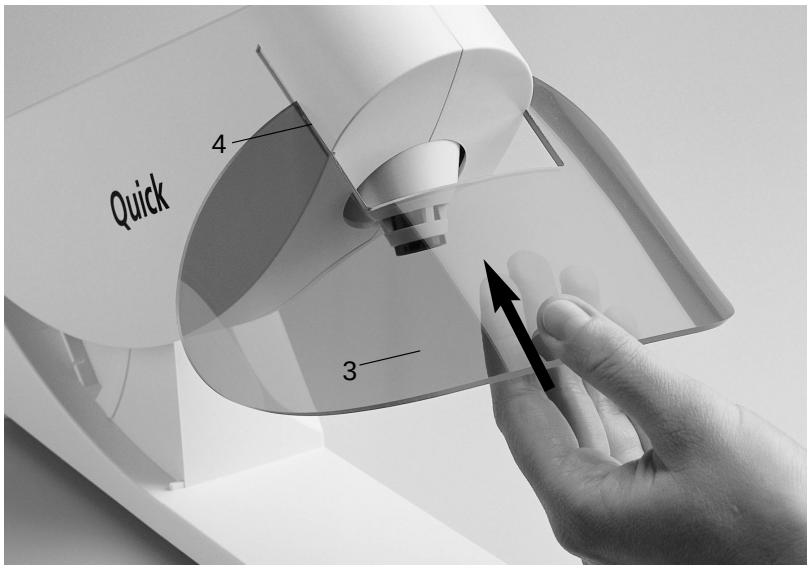
Position the unit in such a way that glare-free working is ensured and no direct view into the lamp is possible.

Make sure that there is enough space for the swivel arm (18) to prevent obstruction of the swivel mechanism. The unit should neither be placed nor operated in areas where there is an explosion hazard.

4.3 Assembly and initial start-up

Step 1: Assemble anti-glare shield
Insert the anti-glare shield (3) into the respective guiding slots of the anti-glare shield holder (4).

Step 2: Connections
Power connection:
Make sure that the voltage indicated on the rating plate (23) and on the voltage selector complies with the local power supply.
Should this not be the case, you must not connect the unit.
Insert the power plug (16) into the power socket (7) of the unit and connect the power cord (17) with the wall socket.



Step 3: Initial start-up
The unit may only be switched on or off with the On/Off switch (5) at the rear of the unit.

Switched on

Switched off

Description of the stand-by indicator (2):
Green indicator
During operation, the stand-by indicator (2) next to the sensor lights up in green, indicating 'ready for use'.

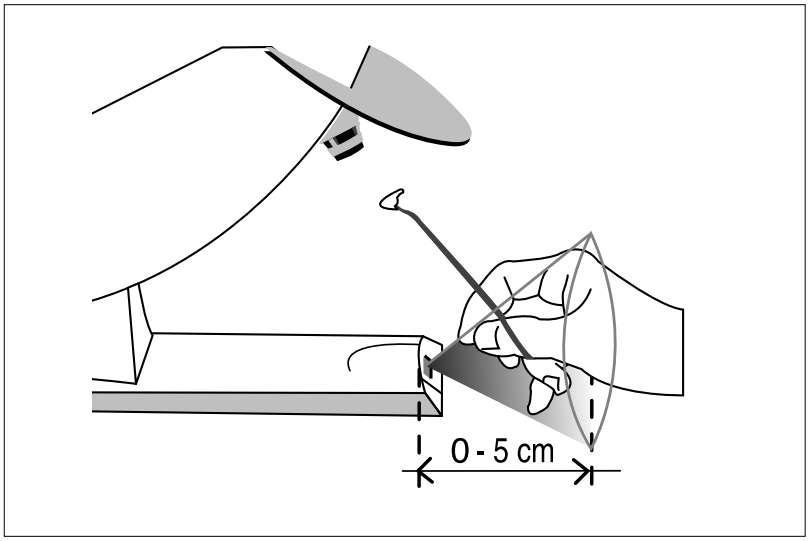
Red indicator
If the stand-by indicator (2) lights up in red, the lamp is too hot or there is a technical defect. Please refer to Chapter 8.

5. Operation

5.1 Description of the Sensor

The Quick is equipped with an infrared sensor that activates the lamp automatically if hands or other objects reach into the sensor range. If the hand or other object is removed from the sensor, the lamp stops after 4 seconds. The distance to activate the lamp via sensor is approx. 5 cm.

Please note that darker colours reflect less light. For that reason the sensor may demonstrate delayed reaction time.
In addition, certain chokes for fluorescent lamps (laboratory day-light lamps) may have a negative influence on the function range of the sensor.

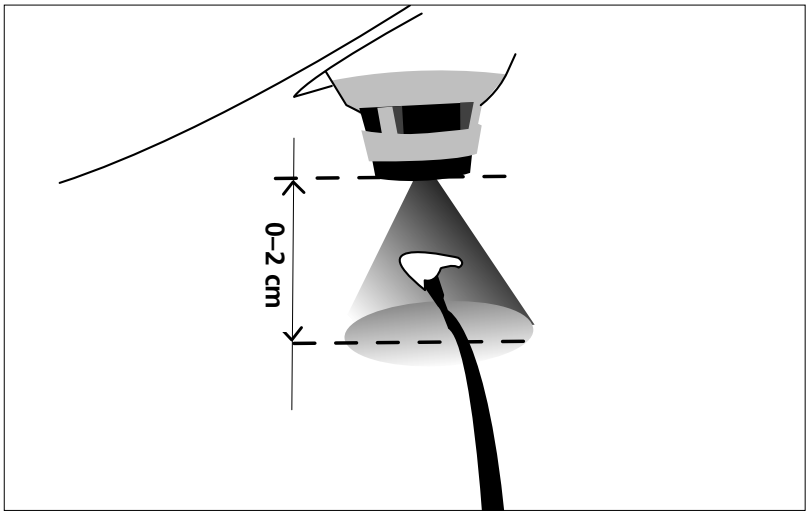


5.2 Distance between lamp and object

The closer the material is positioned to the lamp lens, the higher the light performance and thus the curing depth.

The material should be cured at a very short distance from the lamp lens to assure optimum curing depth. We recommend curing the objects at a distance of 0–2 cm.

If a greater distance is selected, the material may cure inadequately or with a limited curing depth.



The recommended curing time differs from one material to another. Please observe the respective indications in the Instructions for Use of the material.

5.3 Description of the timer

The timer indicates how long the object has been cured after activation of the lamp.

1 beep = 10 Seconds
2 beeps = 20 Seconds
3 beeps = 30 Seconds
4 beeps = 40 Seconds
5 beeps = 50 Seconds

After 60 seconds, the lamps switches off automatically, since the unit is not designed for continuous curing purposes.

Maximum operating time is 60 seconds. Then the lamp has to be allowed to cool for 1.5 minutes. If the maximum operating time limit is not observed, the lamp will overheat. This is then indicated by the stand-by indicator (2) lighting up in red.

To switch on the light again, remove hand from the sensor range. Then, proceed according to 5.1.

6. Practical Use

6.1 Positioning the swivel arm

Move the swivel arm (18) upward until the desired working height is reached.

6.2 Switching on/off

Switching on:
Put On/Off switch (5) at the rear of the apparatus on position 'I'.
The stand-by indicator (2) lights up and the unit is ready for use.

Should this not be the case, please read Chapter 8.

Switching off:
Put On/Off switch (5) on position '0'.

Please refer to the Instructions for Use of the individual materials for the recommended curing times.

6.3 Light-curing

Step 1
Reach into the sensor range with the hand or other object. This will activate the lamp.

Step 2
Move object to be cured into the light observing the recommended distance and curing time. Please pay attention to the signals of the timer.

Step 3
Remove hand or object from the sensor range after the indicated curing time (see Instructions for Use of the respective material). The lamp automatically switches off four seconds after removing the hand or object.

The unit is not designed for continuous operation. For that reason, it automatically switches off after maximally 60 seconds. If the swivel arm is moved downwards to a closed position when the unit is on stand-by, the lamp automatically switches on. Therefore, the On/Off switch has to be set on position '0' if the unit is being closed.

If the unit is no longer used, it should be allowed to cool, and then switched off.

Make sure not to switch off the unit while it is still warm, since the fan is also turned off. This may then lead to overheating of the unit.

7. Maintenance and Cleaning

This chapter describes the user maintenance and cleaning procedures. All other tasks must be performed by qualified service personnel at a certified Ivoclar Vivadent Service Center.

7.1 Monitoring and maintenance

The time for these maintenance procedures depends on the frequency of use and the working habits of the users. For that reason, the recommended times are only approximates.

Disconnect power before maintenance and cleaning, since there is a risk of electrical shock.

This apparatus has been developed for typical use in the dental laboratory.

If the product is used in a production facility, for industrial applications, or in continuous firing operation, premature ageing of certain spare parts have to be expected.

These spare parts are e.g.:
- Heating muffle
- Insulation material
- Lamps

These spare parts are not covered by the warranty.

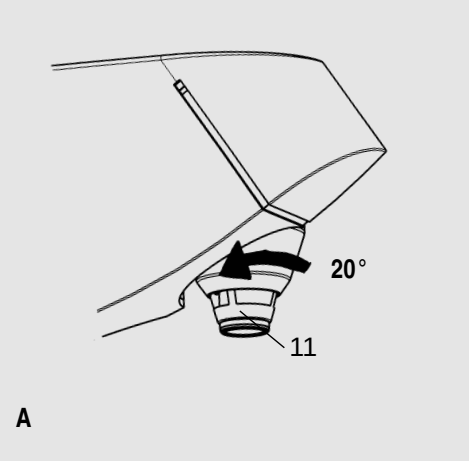
Please also observe the shorter service and maintenance intervals.

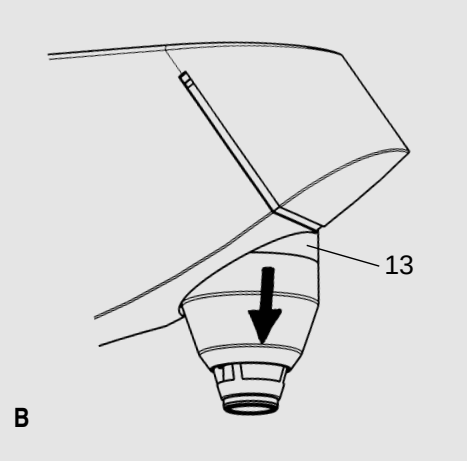
What	Part	When
Check power connection for correct fit	Power plug	weekly or if required
Clean sensor surface with a dry cloth	Sensor surface	weekly or if required
Check light performance with a suitable device (e. g. Heliotest)	Lamp	Every six months or if required

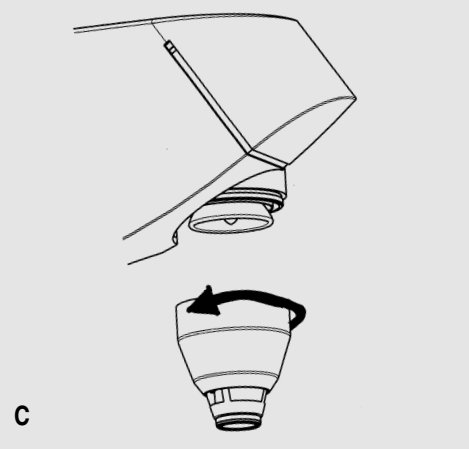
7.2 Changing the lamp

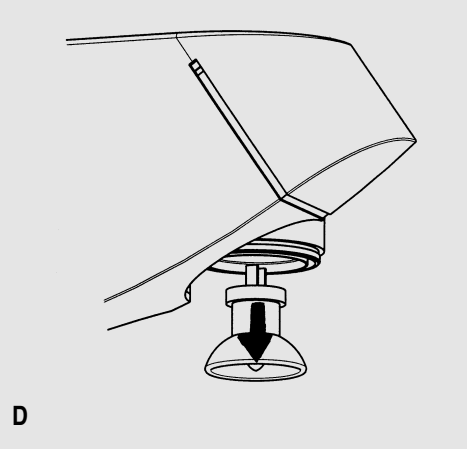
Defective lamps can be exchanged as follows:

Use only original Ivoclar Vivadent lamps (see Chapter 9)









Allow the lamps to cool before changing them

1. Disconnect power cord (17)
2. Remove anti-glare shield (3) from its holder (4) (see Chapter 4.3)
3. Completely open the swivel arm (18)
4. Turn protective cap (11) 20° to the left (bayonet catch) (Picture A)
5. Pull down protective cap (11) with its holder (13) until it stops (Picture B)
6. Unscrew protective cap and remove it from its holder (Picture C)
7. Remove defective lamp from its socket (12) (Picture D)
8. Insert contact pins (10) of the new lamp (9) into the lamp socket (12)

Do not touch the lamp. Hand sweat may damage the lamp. (Use gloves)

9. Screw-on the protective cap (11)
10. Push up the part until only the protective cap (11) is visible.
11. Turn protective cap 20° to the right (bayonet catch)
12. Reassemble anti-glare shield (3) (see Chapter 4.3)

7.3 Cleaning

The unit may only be cleaned when it is cool, since there is a burn hazard. Do not use any cleaning solutions.

The following parts have to be cleaned from time to time:

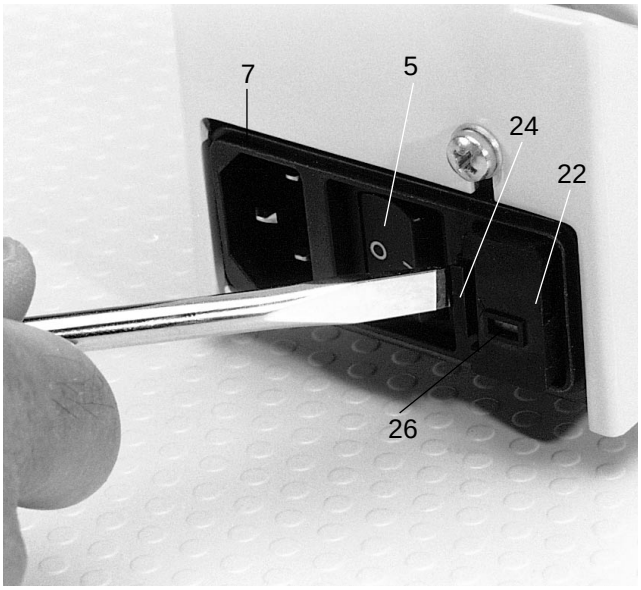
Item:	Frequence:	Cleaning material:
Sensor surface	weekly	cloth
Lamp lens (outside)	every six months	Q-tips or cloth
Housing surfaces	weekly	cloth

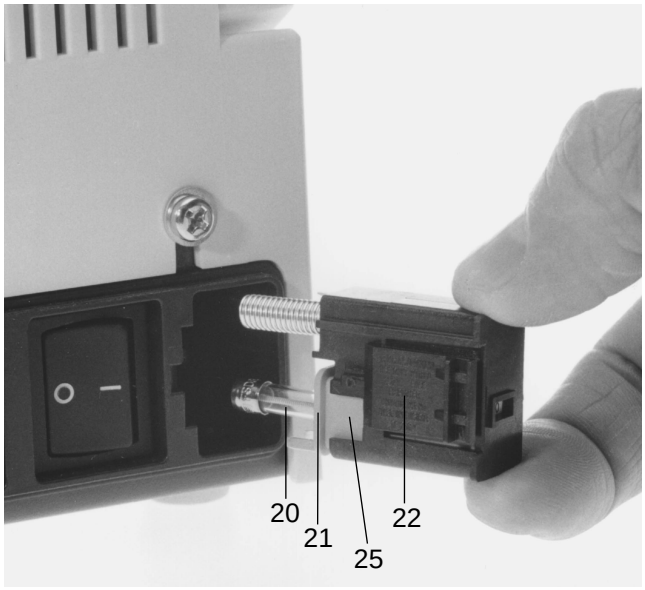
7.4 Changing the fuse

Important
Use only fuses with test labels according to the respective values specified in "Technical Data" (Chapter 9.2).

Disconnect power cord (17). The fuse holder (22) is located in the power socket of the unit (7). Push the lateral fuse stop (24) in the direction of the arrow with a screwdriver. The fuse holder (22) is thus released and may be removed from the unit. Check fuse (20). Replace defective fuse and insert new one with its holder into the power socket (7) until it snaps into place.

Do not remove the voltage selector (25) or even insert it in another position. The selected voltage can be seen in the viewing window of the voltage selector (26)





8. What if...

This chapter will help you to recognize malfunctions and take appropriate measures, or, if possible, to perform some repairs.

8.1 Technical malfunctions

Description	Double-check	Action
Stand-by indicator does not light up	Is the fuse OK?	Check fuse
Lamp does not light up although the stand-by indicator is on	Is the lamp OK?	Change lamp
Stand-by indicator lights up red	Is the lamp too hot?	Allow lamp to cool and wait until the LED (2) lights up green
Fan does not work, and the stand-by indicator lights up red	Is the fan defective?	Contact your Ivoclar Vivadent Service Center
No signal, but the lamp lights up as usual	Have you waited more than 10 seconds?	Contact your Ivoclar Vivadent Service Center
No signal, and the lamp does not light up	Is the stand-by indicator on?	Clean sensor surface
Sensor does not work and no signal can be heard	Is the sensor surface clean? Is it damaged?	Contact your Ivoclar Vivadent Service Center
Material does not cure properly	Is the light performance OK?	Check lamp and replace, if necessary

8.2 Repairs

Repairs may only be carried out by a certified Ivoclar Vivadent Service Center. Please refer to the addresses at the end of these Instructions.

If repairs during the warranty period are not carried out by a certified Ivoclar Vivadent Service Center, the warranty will expire immediately.

Please also read the safety information in Chapter 2.

9. Product Specifications

Quick
This chapter contains all the relevant product specifications.

9.1 Delivery form

1 Quick
1 Anti-glare shield
1 Power cord
1 Extra fuse
1 Operating Instructions
1 Warranty card

Colour:
White (RAL 9016)

9.2 Technical data

Power supply
Single-phase alternating current
230, 240 V / 50-60 Hz
100, 110, 120 V / 50-60 Hz

Tolerated voltage fluctuations:
± 10%

Power consumption
max 100 W

Voltage of lamp
12 V

Type of lamp
Halogen lamp for Quick (only use lamps from Ivoclar Vivadent)

Electrical fuses
Values:
T 800 mA (230/240 V) has to comply with
IEC 127
T 1.6 A (100/110/120 V) has to comply with
UL and CSA

Dimensions of fuses
230-240 V = ø 5 x 20 mm
100-120 V = ø 5 x 20 mm

Dimensions of unit
Length 390 mm
Width 150 mm
Height 130 mm (closed)

Lightwave range (filtered)
400 - 500 nm

Weight
2.3 kg

Safety information
The Quick complies with the following guidelines:
– IEC 1010-1/EN 61010, Part 1
– UL 3101-1
– CSA 22.2 No. 1010-1
– Directive 89/336/EEC, radio protection / electromagnetic compatibility
– EMC tested

9.3 Acceptable operating conditions

Acceptable temperature range
5–35 °C (41–95 °F)

Acceptable humidity range
Maximum relative humidity at 31 °C (87 °F) gradually decreasing to 50 % at 35 °C (95 °F), condensation excluded

Acceptable ambient pressure
The unit may be used at altitudes of up to 2000 m above sea level.

Max. operation
60 seconds

9.4 Acceptable transportation and storage conditions

Acceptable temperature range
-20 to +50 °C (-4 to +122 °F)

Acceptable humidity range
Maximum relative humidity at 31 °C (87 °F) gradually decreasing to 50 % at 40 °C (104 °F), condensation excluded

Acceptable ambient pressure
500-1060 mbar

Use only original packaging together with the respective foam material for shipping purposes.

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This apparatus has been developed solely for use in dentistry. Start-up and operation should be done strictly according to the Operating Instructions. Liability cannot be accepted for damages resulting from misuse or failure to observe the Instructions. The user is solely responsible for testing the apparatus for its suitability for any purpose not explicitly stated in the Instructions. Descriptions and data constitute no warranty of attributes and are not binding.

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